VISTA

RPC BROKER

INSTALLATION GUIDE

Version 1.1*14

May 2000

Department of Veterans Affairs
VHA CIO Technical Services

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Introduction

Purpose

The purpose of this guide is to provide instructions for installing the Veterans Health Information Systems and Technology Architecture (**V***IST***A**) Remote Procedure Call (RPC) Broker (also referred to as "Broker") Version 1.1.

This version of the RPC Broker provides programmers with the capability to develop and deploy new **V***IST***A** client/server software using the Broker Delphi component (i.e., TRPCBroker) in the 32-bit environment.

Note that multiple installation procedures are provided in this guide. The RPC Broker has separate installations for each of the following target environments:

- End-User Client Workstations
- Programmer Client Workstations
- M Servers

Documentation Conventions

The following symbols are used in this manual to alert the reader about special information:

Symbol	Description
	Informs the reader of general information including references to additional reading material
	Cautions the reader to take special notice of critical information
	Informs the reader of specific instructions for virgin installations only

Related Manuals

Readers who wish to learn more about the RPC Broker should consult these related materials:

- *RPC Broker V. 1.1 Release Notes*

- *RPC Broker V. 1.1*9 Systems Manual*

- *RPC Broker V. 1.1*9 Technical Manual*

- *RPC Broker V. 1.1 Getting Started with the Broker Development Kit*

- *Online RPC Broker Developer's Guide* (i.e., BROKER.HLP, designed for programmers, distributed in the BDK)

- RPC Broker Home Page at the following web address: http://vista.med.va.gov/broker/

  This home page provides announcements, additional information (i.e., Frequently Asked Questions [FAQs]), documentation, archives of older documentation, and software downloads.

Broker documentation is made available online, on paper, and in Adobe Acrobat Portable Document Format (.PDF). The .PDF documents must be read using the Adobe Acrobat Reader (i.e., ACROREAD.EXE), which is freely distributed by Adobe Systems Incorporated at the following web address:

http://www.adobe.com/

Preliminary Considerations

About the Installation Procedures

The installation of the RPC Broker is a *multi-part* process. Separate installation procedures are provided in this guide for:

- End-User Client workstations
- Programmer Client workstations
- M servers

For end-user client workstations, two methods are provided for installing the RPC Broker client software:

- **Interactive** – user input required
- *Non*-**interactive** – "silent," no user input required

For programmer client workstations, there are three different procedures, depending on the version of Delphi for which support is needed:

- Delphi V. 5
- Delphi V. 4
- Delphi V. 3

Delphi V.2 is no longer supported. Delphi V.2 was supported prior to patch XWB*1.1*4. See http://vista.med.va.gov/broker/archives/ for an installation guide for XWB*1.1*4 and other documentation supporting Delphi V.2.

For first-time field deployments, we strongly recommend the following approach to installing the RPC Broker:

1. Obtain the RPC Broker documentation. It is available in Acrobat PDF format, and can be downloaded from the National **V***IST***A** Support (NVS) anonymous directories.

2. Install the server software in a Test account prior to installing it in a Production account.

> **i** *Some RPC Broker distribution files have been replaced with patched versions, making them obsolete, including the original unpatched Programmer client workstation software. All such obsolete files remain available from the RPC Broker web site's archive:* http://vista.med.va.gov/broker/

RPC Broker Distribution Files

File Name	Type	Description
XWB1_1RM.TXT (ASCII file)	Text (ASCII)	**Readme text file**. Provides any last minute changes, new instructions, and additional information to supplement the manuals. Read all sections of this file prior to workstation installations.
XWB1_1DG.PDF	PDF (binary)	**Getting Started with the Broker Development Kit** (manual).
XWB1_1RN.PDF	PDF (binary)	**Release Notes** (manual).
XWB1_1P9 SM.PDF	PDF (binary)	**Systems Manual** (manual).
XWB1_1P9TM.PDF	PDF (binary)	**Technical Manual** (manual).
XWB1_1P14IG.PDF *or latest version*	PDF (binary)	**Installation Guide** (manual). Use in conjunction with the XWB1_1RM.TXT Readme text file.
XWB1_1P14PG.EXE *or latest version*	EXE (binary)	**Programmer client workstation software**, self-installing executable. Contains: • Broker Development Kit (BDK): Provides the TRPCBroker Delphi Component for Delphi Broker development. • Broker.HLP: The complete online reference to the BDK. • BrokerProgPref.EXE: Sets BDK developer preferences. • ServerList.EXE: A configuration tool to edit client connections to RPC Broker servers. For more information, see the "Edit Broker Servers Program" section in the "System Features" chapter of the *Systems Manual.*
XWB1_1WS.EXE	EXE (binary)	**End-user client workstation software**, self-installing executable. Contains: • Client Agent Software: Software to install on client workstations to run RPC Broker applications. For more information, refer to the "System Features" chapter of the *RPC Broker Systems Manual.* • RPCTEST.EXE: A diagnostic tool to test connectivity to RPC Broker servers. For more information, see the "Troubleshooting" chapter of the *Systems Manual.* • BAPI32.DLL: A 32-bit Broker Dynamic Link Library (DLL) interface to Broker component functions. For more information, see the Broker.HLP file.
XWB_DFLT.INI	INI (ASCII)	**Initialization file**. Use for *non*-interactive installation of the Broker on end-user client workstations.
XWB1_1.KID	KIDS (ASCII)	**KIDS distribution.** Contains the RPC Broker server software: • 1 Global (^XWB) - and VA FileMan files • Server Routines • Kernel Options and Remote Procedure Calls
Server patches	KIDS (ASCII)	**Server Patches.** Obtain all released RPC Broker V. 1.1 server-side patches, from the Forum patch system or through normal procedures.

End-User Client Workstation Requirements

The following minimum hardware and software tools are required on your client workstation in order to install and use the RPC Broker:
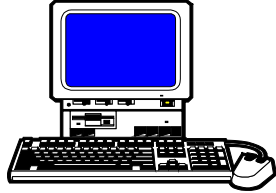
- ■ 80x86-based client workstation

- ■ One of the following 32-bit operating systems:

  - • Microsoft Windows 95

  - • Microsoft Windows NT Workstation V. 3.51 or greater

  i *The VA has made the decision to go to a 32-bit Microsoft Windows environment. Therefore, this version of the Broker does not operate on Windows 3.1 or Windows 3.1 with WIN32S.*

- ■ Network communications software

  The Broker requires networked client workstations running Microsoft's native TCP/IP stack.

  i *Currently only Winsock compliant TCP/IP protocol is supported on the LAN or remotely as Point-to-Point Protocol (PPP) or Serial Line Internet Protocol (SLIP). You must use RAS (Remote Access Service) or Dialup Networking to connect to the server using PPP or SLIP. For the setup of RAS or Dialup Networking please refer to the appropriate operating system's documentation.*

  i *For more information on telecommunications support, please visit the Telecommunications Support Office Home Page:*

  http://vaww.va.gov/cso/

Programmer Client Workstation Requirements

The workstation requirements for programmer workstations are the same as for end-user client workstations (see previous section).
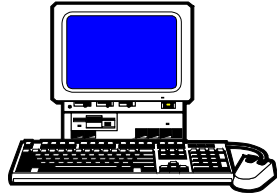
The most recent version of the Broker Development Kit (BDK) requires Delphi V. 5, V. 4 or V. 3.

Delphi is not required for developers who use the RPC Broker Dynamic Link Library (DLL), rather than the TRPCBroker Delphi component. For such developers, any development product that supports linking to 32-bit Windows DLLs can be used.

Versions 1.1 and greater of the RPC Broker component do *not* support development of Delphi V. 1.0 16-bit (i.e., Windows 3.1 and below) applications. However, the Broker routines on the M server will continue to support **V***IST***A** applications previously developed in the 16-bit environment.

> ⚠ **If you need Delphi V. 2 support, use the original *unpatched* V. 1.1 release of the BDK, distributed in XWB1_1PG.EXE.**

M Server Requirements

The following minimum software tools are required on your M server in order to install and use the RPC Broker:

- ■ **Server Operating System.** One of the following operating systems:

    - • Digital Standard M (DSM) V6.3-031 for OpenVMS AXP or greater

    - • InterSystems Caché for NT

    - • Micronetics Standard M (MSM) for Windows NT, V. 4.3 or greater

- ■ **Fully Patched M Accounts.** You should have both a development Test account and a Production account for the Broker software.

    The account(s) must contain the *fully* patched versions of the following software:

    - • Kernel V. 8.0 (or later)

         For virgin installations of the RPC Broker at Kernel 8 sites, install Patch #59 (i.e., XU*8*59), if you haven't already installed it, *after* you have installed the RPC Broker V. 1.1.

    - • Kernel Toolkit V. 7.3 (or later)
    - • VA FileMan V. 21.0 (or later)

    These packages must be properly installed and *fully* patched prior to installing the RPC Broker server software distribution. Patches must be installed in published sequence.

- ■ **Network communications software**

    Your server needs to have TCP/IP running.

- ■ **Released RPC Broker V. 1.1 Patches**

    At the time of publication of this manual, several server-side patches for the RPC Broker V. 1.1 have been released. You should have these patches readily available so that you can apply them after you install the baseline RPC Broker V. 1.1 KIDS distribution. Obtain all released RPC Broker V. 1.1 server-side patches, from the Forum patch system or through normal procedures.

Skills Needed for Installation

Skills required to perform the installation are listed below. Instructions for performing these functions are provided in vendor-supplied operating system manuals as well as **V***IST***A** publications.

> *DSM for OpenVMS sites should refer to the most recent Computer Operations Management and Procedures for AXP Systems (COMPAS) manual. See the AXP team's web site at:*
> *http://vaww.va.gov/custsvc/cssupp/axp/axphome.asp*
>
> *Caché for NT sites should refer to the AVANTI How-To web site, currently located at:*
> http://152.131.1.116/cs/
>
> *MSM sites should refer to the most recent 486 Cookbook and MSM System Managers Guide.*

You need to know how to do the following:

- Back up the system
  [both the M server and programmer/end-user client workstations]

- Create directories on the host file system
  [programmer/end-user client workstation only]

- Copy files using commands of the host file system
  [both the M Server and programmer/end-user client workstations]

- Run a KIDS installation
  [M server only]

- Switch User Class Identification (UCI) accounts
  [M server only]

- Enable/Disable routine mapping and journaling
  [M server only]

- Manage globals, including global placement, protection, and translation
  [M server only]

- Run a system status and restore a job
  [M server only]

End-User Client Workstation Installation Instructions

Two sets of instructions are provided for end-user client workstations:

A. Interactive

B. Non-Interactive

> ⚠ **The RPCBI.DLL and Client Manager (i.e., CLMAN.EXE) previously distributed and installed in the vista/broker directory on the client workstation (i.e., via Broker V. 1.0) are not used by this version of the Broker. However, they should *not* be removed from client workstations. Any 16-bit RPC Broker V. 1.0-based applications in use on the workstation (e.g., early versions of PCMM) would still need the RPCBI.DLL and Client Manager.**

Interactive Installation Instructions

1. Confirm Distribution Files

You need the following files to install the RPC Broker end-user client workstation software:

File Name	Description
XWB1_1RM.TXT (ASCII file)	**Readme text file**. Provides any pre-installation instructions, last minute changes, new instructions, and additional information to supplement the manuals. Read all sections of this file prior to workstation installations.
XWB1_1P14IG.PDF (binary file) *or latest version, e.g., XWB1_1PxxIG.PDF*	**Installation Guide**. Use in conjunction with the XWB1_1RM.TXT Readme text file.
XWB1_1WS.EXE (binary file)	**End-user client workstation**, self-installing executable. Contains the client RPC Broker files for 32-bit operating systems, including the RPC Broker client agent and stand-alone Help files.

2. Shut down Windows Applications *(required)*

We recommend shutting down all other Windows-based applications running on the workstation you're installing on. In particular, you must *not* be running *any* application that uses the Broker during the installation.

3. Shut down the Client Agent *(required)*

If the RPC Broker Client Agent is running, shut it down. To determine if the client agent is running, look in the workstation's menu bar tray. If you see one of the following the RPC Broker Client Agent icons, the Client Agent is running:

 or
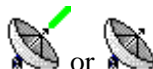
If it is running, to shut down the Broker Client Agent, do one of the following:

- Right-click on the RPC Broker client agent icon in the workstation's menu bar tray, and choose ShutDown from the popup Client Agent menu.

- Double-click on the RPC Broker client agent icon to open the client agent window, and then click ☒ in that window.

At the prompt "If you close the client agent, your ability to access the V*IST*A server may be reduced. Do you want to proceed with closing the client agent?" click Yes.

4. Run the Installation Program *(required)*

Run XWB1_1WS.EXE on the client workstation, starting the interactive end-user client workstation installation. For example, on a Windows 95 system:

A. Go to the Start menu.
B. Select the Run option.
C. Click Browse to locate XWB1_1WS.EXE.
D. Click OK to run XWB1_1WS.EXE

Follow the online instructions provided when you run the installation program. We strongly recommend the following:

- When prompted to accept the default Broker Directories, click OK. *If the target directory is on a Windows NT NTFS (NT file system) volume, the user(s) of the workstation need READ access to the Broker directories.*

> **This version (1.1) of the RPC Broker is a 32-bit application. We strongly recommend that you load it in a separate directory from any previously installed 16-bit (version 1.0) RPC Broker.**

- When prompted whether to always start the Broker Client Agent, click Yes. This starts the Broker Client Agent whenever Windows starts.

 For a complete listing of installed client files after installation, refer to the "File List" chapter in the RPC Broker V. 1.1 Technical Manual.

5. Restart Windows *(recommended)*

Restart Windows so the latest version of the Broker Client Agent is running.

6. Modify the HOSTS File *(optional)*

The HOSTS file is an ASCII text file that contains a list of the servers and their IP addresses. If IRM wishes to add, modify, or delete servers and IP addresses to be used by the Broker, please refer to the "HOSTS File" topic in Chapter 1 of the *RPC Broker V. 1.1*9 Systems Manual*.

7. Add Listeners/Ports to the Registry *(optional)*

If IRM wishes to add, modify, or delete servers and ports to be used by the Broker, please refer to the "Edit Broker Servers Program" topic in Chapter 1 of the *RPC Broker V. 1.1*9 Systems Manual*.

Non-Interactive Installation Instructions

> ⚠️ **The end-user client workstation installation does more than copy files into directories; it also makes entries in the Windows Registry. Thus, simply doing a mass copy of files from a server to various end-user client workstations is insufficient.**

1. Confirm Distribution Files

The following files are needed to install the RPC Broker end-user client workstation software *non-*interactively:

File Name	Description
XWB1_1RM.TXT (ASCII file)	**Readme text file**. Provides any pre-installation instructions, last minute changes, new instructions, and additional information to supplement the manuals. Read all sections of this file prior to workstation installations.
XWB1_1P14IG.PDF (binary file) *or latest version, e.g., XWB1_1PxxIG.PDF*	**Installation Guide**. Use in conjunction with the XWB1_1RM.TXT Readme text file.
XWB1_1WS.EXE (binary file)	**End-user client workstation**, self-installing executable. Contains the client RPC Broker files for 32-bit operating systems, including the RPC Broker client agent and stand-alone Help files.
XWB_DFLT.INI (ASCII file)	**Initialization file**. Use for *non*-interactive installation of the Broker on end-user client workstations.

2. Modify the XWB_DFLT.INI file for Site-Specific Settings *(optional)*

The *non*-interactive installation uses the installation settings stored in the file XWB_DFLT.INI. This file must be in the same directory from which you run XWB1_1WS.EXE. Prior to the installation, you may use a text editor (e.g., Microsoft Notepad) to edit this file and change the default settings, to control how the installation is performed. Its entries and permissible settings are as follows:

XWB_DFLT.INI Entry	Default Value	Description and Permissible Settings
Version	1.1	*Do not change the Version entry.*
BrokerDirectory	c:\Program Files\Vista\Broker	Broker client files directory location.
MakeBackUps	Yes	Yes or No entry. If yes, automatically backs up Broker client files into the directory specified by the BackUpDirectory entry.
BackUpDirectory	c:\Program Files\Vista\Broker\Backup	Backup Broker client files directory location.
AutoStartClientAgent	Yes	Yes or No entry. Yes enables Automatic startup of the Client Agent on the workstation.

> ⚠️ **The Version entry in the XWB_DFLT.INI file should be 1.1. Do *not* edit this entry.**

3. Load and Run XWB1_1WS.EXE with Switches *(required)*

Prior to beginning an installation, we recommend you shut down all other Windows-based applications running on the workstation. Specifically, you must *not* be running the Broker Client Agent or *any* application that uses the Broker during the installation.

To start the *non*-interactive end-user client workstation installation setup program, run XWB1_1WS.EXE *with switches:* **/S AUTO**:

```
XWB1_1WS.EXE /S AUTO
```

The switches must be in UPPERCASE. Follow the procedures on how to run a program non-interactively as described in your operating system's Systems Manual.

4. Finish Remaining Installation Tasks *(recommended)*

To complete the *non*-interactive installation, please refer to and follow Steps 5 – 7 of the "Interactive Installation Instructions" from earlier in this chapter. Special workstation management software and/or local procedures may enable you to perform these remaining steps non-interactively.

Programmer Workstation Delphi 4 and 5 Instructions

1. Considerations Before Installing the BDK

- **Installation Sequence.** The programmer client workstation installation should only be done *after* having installed the end-user client software on the programmer workstation. Please refer to the "Interactive Installation Instructions for End-User Client Workstations" instructions earlier in this manual.

- **Source Code.** The release of the source code does not affect how a developer uses the Broker Component or other parts of the BDK. *Modified BDK source code should NOT be used to create VistA GUI applications.* Suggestions for changes to the BDK should be done via NOIS (for bugs) or E3R (for enhancements) for review and possible inclusion in another patch.

- **Design-time and Run-time Packages.** The BDK now has separate run-time and design-time packages. There is no longer a VistaBroker package. The new packages are XWB_Dxx and XWB_Rxx, where D means Design-time and R means Run-time and where xx is two digits indicating the version of Delphi with which it should be used (e.g., XWB_D50 is the design-time package for Delphi 5.0). The run-time package should not be used to create executables that depend on a separate XWB_Rxx.bpl installed on client workstations. There is no procedure in place at this time to reliably install the correct version of the run-time bpl on client workstations. *Do NOT compile your project so that it relies on dynamic linking with the BDK's run-time package; that is, do NOT check the 'Build with runtime packages' box on the Packages tab of the Project Options dialog.*

- **Package Dependencies.** A Package may have been defined to *require* the Broker package. Patch XWB*1.1*14 changes the identity of the Broker design-time package. If you try to install a package into the Delphi IDE that requires the Broker, you may receive an error message like:

  ```
  Can't load package <Package1>.
  One of the library files needed to run this package cannot be found.
  ```

  To resolve this problem, Open the dpk file associated with that package; delete the reference to the old version of the Broker in the Requires section; add a reference to the new design-time Broker package (XWB_Dxx) into the Requires section; recompile and install the package.

- **Component Dependencies.** Some VA-developed components may reference the TRPCBroker component. If you develop applications using such components, be aware that installing a newer version of the TRPCBroker component may cause incompatibilities, until the Broker-dependent components have been recompiled with the new version of the TRPCBroker component. Any such incompatibilities would show up as a compilation error:

  ```
  Unit <Unit1> was compiled with a different version of <Unit2>
  ```

  To resolve this problem, you need to either a) obtain the source code for the components so that you can recompile the components with the new BDK units, or b) obtain a compiled version of their component that was compiled with the same version of the BDK you are using.

  The FileMan Delphi Components (FMDC) is one example of a package whose source code

references the TRPCBroker component. Patch FMDC*1.0*1 was released to issue the FMDC source code, so that you can easily recompile FMDC whenever new BDKs are released.

- **Delphi 5 Standard Edition.** Delphi V. 5 comes in three flavors: Standard, Professional and Enterprise. The Standard edition of Delphi 5 is targeted mainly at students, and as such leaves out many features. Standard Edition does not ship with Delphi's OpenHelp help system. This makes it difficult to integrate the BDK help with Delphi 5, Standard Edition. We do not recommend using the Standard edition of Delphi V. 5 for RPC Broker development at this time.

2. Confirm Distribution Files

Use the following files to install the BDK for Delphi V. 4 or 5:

File Name	Description
XWB1_1RM.TXT (ASCII file)	**Readme text file**. Provides any pre-installation instructions, last minute changes, new instructions, and additional information to supplement the manuals. Read all sections of this file prior to workstation installations.
XWB1_1P14IG.PDF (binary file) *or latest version, e.g., XWB1_1PxxIG.PDF*	**Installation Guide**. Use in conjunction with the XWB1_1RM.TXT Readme text file.
XWB1_1P14PG.EXE (binary file) *or latest version, e.g., XWB1_1PxxPG.EXE*	**Programmer client workstation** self-installing executable. Installs the RPC Broker Development Kit (BDK).

3. Run the Installation Program — Unpack Files *(required)*

To start the programmer client workstation installation setup program, run XWB1_1P14PG.EXE (or latest version, e.g., *XWB1_1PxPG.EXE*). Follow the procedures on how to run a program as described in your operating system's Systems Manual.

Note: There is no "silent" installation for the BDK.

For example, in Windows NT:

A. Go to the Start menu.
B. Select the Run option.
C. Click Browse to locate XWB1_1P14PG.EXE (or latest version, e.g., *XWB1_1PxPG.EXE*).
D. Click OK to run XWB1_1P14PG.EXE (or latest version, e.g., *XWB1_1PxPG.EXE*).

During the installation, various dialog boxes are presented to you. Follow the online instructions. The directory location you choose to install the BDK files in will be referred to in these instructions as the "BDK files directory". In addition to placing files in the subdirectories of the BDK files directory, a copy of the run-time .bpl file (e.g. XWB_R50.BPL) will be put into the system directory.

The BDK installation supports several different versions of Delphi, which at the current time includes V. 3, 4 and 5. During the installation you are given the opportunity to include the necessary files for development under one or more of these environments. If you request the BDK source code, the code for the version(s) you select will be placed in a directory `\source` descendent from that version's directory.

i *By default, Delphi V. 5 is pre-selected.*

4. De-Install Any Previous BDK Installed for Delphi V. 4 or 5 *(required)*

If this is a virgin installation for your version of Delphi proceed directly to Step 5.

A.   Start Delphi V. 4 or 5 and close any open projects.

B.   From the Delphi menu, select *Component | Install Packages*.

C.   Remove any previous version of the BDK from the Design Packages listing. To do this:

    i.   Scroll through the listing of installed design packages until you find the entry for the previous version of the BDK. The name of the previous version may be `VistA Broker`, or it may start with the pattern `VistABroker-designtime*`. The remainder of this section will refer to this package as `YourOldBroker`.

    ii.   Select (highlight) this entry.

    iii.   Click Remove.

    iv.   Delphi presents one of two confirmation windows. Delphi may present a confirmation window saying:

```
Remove 'c:\program files\vista\bdk32\YourOldBroker.bpl' from
the design package list?
```

If Delphi presents this confirmation window, answer Yes.

Otherwise Delphi may present a confirmation window saying:

```
Package(s) xxx will also be uninstalled because they require
package YourOldBroker. Continue Uninstall?
```

If this is OK, click Yes. Any packages dependent on the RPC Broker are also uninstalled. You will need to re-install them after you install or update the TRPCBroker Component Files. If you click No, you will not be able to de-install the previous RPC Broker software.

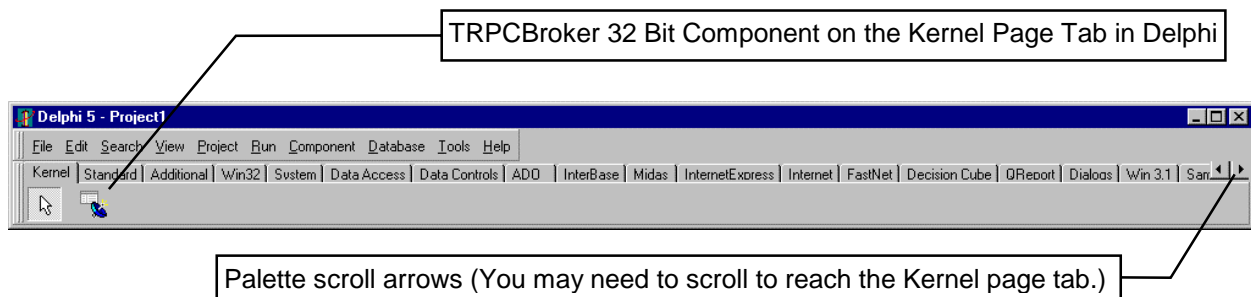   v.   If you chose to remove any packages, Delphi may also present a Remove Runtime Packages window, saying:

```
The package names in the following list are not used by any
installed packages. Remove the selected names from the
runtime packages list?
```

If Delphi presents this window, click Yes.

vi. Click OK in the "**Project Options**" dialog box to finish the de-installation.

5. Install/Update the TRPCBroker Component Files in Delphi *(required)*

A. Start Delphi V. 4 or 5 and close any open projects.

B. From the Delphi menu, select *Component | Install Packages*. This opens a window titled Project Options.

C. Click Add. This opens a window titled Add Design Package.

D. In the Add Design Package window, navigate to the directory in which you installed the appropriate version of the new BDK files for Delphi 4 or Delphi 5, in step 3 above (e.g., C:\PROGRAM FILES\VISTA\BDK32\D5 or C:\PROGRAM FILES\VISTA\BDK32\D4).

E. Select **XWB_D50.BPL** (or XWB_D40.BPL) and click Open. Delphi returns you to the Project Options window. "Vista Broker design-time(Delphi 5)" should now be listed as a checked item in the list of Design Packages.

F. Click OK to close the Project Options window. Delphi automatically rebuilds the Delphi Component Palette creating/updating a Kernel page tab with the RPC Broker component (i.e., TRPCBroker) as well as any previously installed components.

TRPCBroker 32 Bit Component on the Kernel Page Tab in Delphi

Palette scroll arrows (You may need to scroll to reach the Kernel page tab.)

G. Confirm that Delphi's Library Path only references the current RPC Broker. The Library Path specifies search paths where the compiler can find the source files for the package. If you try to build an application with a file not on the library path, you will receive a compiler error. Conversely, if versions of a package (such as XWB_D50.BPL) are available in multiple directory locations on the library path, you may end up compiling your application with obsolete components.

i. In Delphi's menu, select *Tools | Environment Options*.

ii. Under the Library tab, examine the Library Path. To see the complete library path, scroll right in the edit box or click the "**...**" button. Only one directory on the search path should contain XWB_D50.BPL (or XWB_D40.BPL). If more than one directory on the library path contains this .BPL, remove all from the library path *except* for the location of the .BPL that you just installed.

> ⚠️ **You will now need to re-install any packages that were removed when you de-installed the previous BDK.**

6. Delphi 4 Only: Install Updated Delphi V.4 Help System *(recommended)*

There is an update from Inprise to the Delphi V. 4 help system, for the originally released version of Delphi V. 4. This update enables Delphi V. 4's new "OpenHelp" system, which makes 3rd party help (like the Broker help!) easier to integrate.

For Delphi 4 only, to install this update:

A. Exit Delphi 4, if it is open.

B. Go to Inprise's Delphi Documentation update web page, and download the "DELPHI4.HLP" update. At the time of writing, the name of the file to download is del4hlp.zip, and the file is located at:

> ftp://ftp.inprise.com/pub/delphi/techpubs/delphi4/del4hlp.zip

C. Unzip DEL4HLP.ZIP, placing the four resulting files (DELPHI4.CNT, DELPHI4.OHC, DELPHI4.OHI, DELPHI4.HLP) into the following directory (overwriting the existing versions of these four Delphi4 help files):

```
...\DELPHI4\HELP
```

7. Install the Broker Help Files with Delphi's Help *(recommended)*

Installing the Broker Help file provides context-sensitive help within Delphi for the TRPCBroker component's properties, methods and events. Once merged, simply make the Broker component or property the active object in Delphi, and press the F1 key.

A. For Delphi 5, copy the BROKER.CNT and BROKER.HLP files from the BDK files directory for Delphi 5 (e.g., C:\PROGRAM FILES\VISTA\BDK32\D5) into the ...\Delphi5\HELP directory.
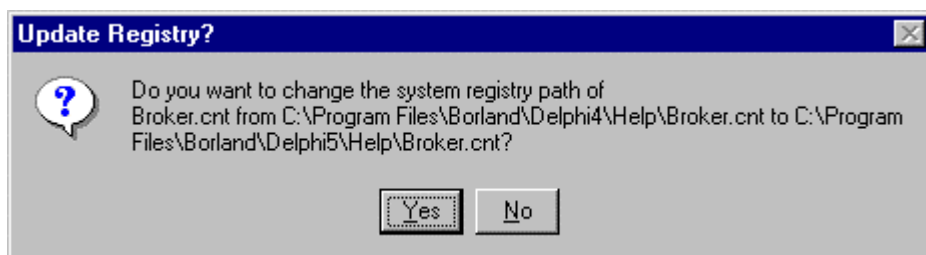
   For Delphi 4, copy the BROKER.CNT and BROKER.HLP files from the BDK files directory for Delphi 4 (e.g., C:\PROGRAM FILES\VISTA\BDK32\D4) into the ...\Delphi4\HELP directory.

B. Start Delphi.

C. On the Delphi Help menu, choose *Customize*. This runs the OpenHelp program.

D. Select OpenHelp's *Contents* tab, and add BROKER.CNT:

    i.   Select *Edit | Add Files* (or click the icon with a +).
    ii. Depending on the version of Delphi you are using, navigate to the \DELPHI4\HELP or \DELPHI5\HELP folder.
    iii. Change the "files of type" file filter to .CNT.
    iv. Choose BROKER.CNT (Select the file name and press Open.)
    v. Click Yes if you get the following window.

Update Registry?

Do you want to change the system registry path of Broker.cnt from C:\Program Files\Borland\Delphi4\Help\Broker.cnt to C:\Program Files\Borland\Delphi5\Help\Broker.cnt?

[Yes]   [No]

E. Select OpenHelp's *Index* tab, and add BROKER.HLP:

    i.   Select *Edit | Add Files* (or click the icon with a +).
    ii. Choose BROKER.HLP (Select the file name and press Open.)
    iii. Click Yes if you get the following window.

Update Registry?

Do you want to change the system registry path of Broker.hlp from C:\Program Files\Borland\Delphi4\Help\Broker.hlp to C:\Program Files\Borland\Delphi5\Help\Broker.hlp?

[Yes]   [No]
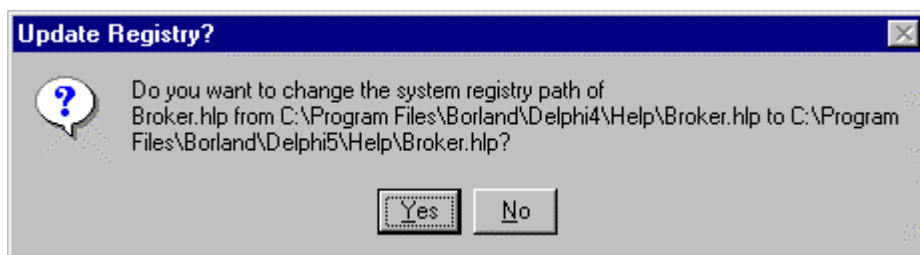
F. Select OpenHelp's *Link* tab, and add BROKER.HLP:

    i.   Select *Edit | Add Files* (or click the icon with a +).
    ii. Choose BROKER.HLP (Select the file name and press Open.)

G. Select *File | Save Project* in OpenHelp. This updates the help system, incorporating BROKER.HLP.

H. Close OpenHelp.

I. On a blank form, add the TRPCBroker component. Select the TRPCBroker component on your form and press F1 for help. If the help for the TRPCBroker component comes up, you are all set.

Also, in any RPC Broker help topic, if you press the *Help Topics* button, you should see the *Online RPC Broker Developer Guide* manual listed along with the regular Delphi manuals. RPC Broker topics should be available in the Delphi help index and full text search tabs as well.

J.   A WinHelp version of the RPC Broker Systems Manual is also available. If you want to install it as well, repeat steps 7A-7H, except with files BROKERSM.CNT and BROKERSM.HLP.

*** You have now completed the installation of the RPC Broker component in Delphi V. 4 or V. 5 on the programmer client workstation ***

Programmer Workstation Delphi 3 Instructions

1. Considerations before Installing the BDK

- **Installation Sequence.** The programmer client workstation installation should only be done *after* having installed the end-user client software on the programmer workstation. Please refer to the "Interactive Installation Instructions for End-User Client Workstations" instructions earlier in this manual.

- **Source Code.** The release of the source code does not affect how a developer uses the Broker Component or other parts of the BDK. *Modified BDK source code should NOT be used to create VistA GUI applications.* Suggestions for changes to the BDK should be done via NOIS (for bugs) or E3R (for enhancements) for review and possible inclusion in another patch.

- **Design-time and Run-time Packages.** The BDK now has separate run-time and design-time packages. There is no longer a VistaBroker package. The new packages are XWB_Dxx and XWB_Rxx, where D means Design-time and R means Run-time and where xx is two digits indicating the version of Delphi with which it should be used (e.g., XWB_D30 is the design-time package for Delphi 3.0). The run-time package should not be used to create executables that depend on a separate XWB_Rxx.bpl installed on client workstations. There is no procedure in place at this time to reliably install the correct version of the run-time bpl on client workstations. *Do NOT compile your project so that it relies on dynamic linking with the BDK's run-time package; that is, do NOT check the 'Build with runtime packages' box on the Packages tab of the Project Options dialog.*

- **Package Dependencies.** A Package may have been defined to *require* the Broker package. Patch XWB*1.1*14 changes the identity of the Broker design-time package. If you try to install a package into the Delphi IDE that requires the Broker, you may receive an error message like:

  ```
  Can't load package <Package1>.
  One of the library files needed to run this package cannot be found.
  ```

  To resolve this problem, Open the dpk file associated with that package; delete the reference to the old version of the Broker in the Requires section; add a reference to the new design-time Broker package (XWB_Dxx) into the Requires section; recompile and install the package.

- **Component Dependencies**. Some VA-developed components may reference the TRPCBroker component. If you develop applications using such components, be aware that installing a newer version of the TRPCBroker component may cause incompatibilities, until the Broker-dependent components have been recompiled with the new version of the TRPCBroker component. Any such incompatibilities would show up as a compilation error:

  ```
  Unit <Unit1> was compiled with a different version of <Unit2>
  ```

  To resolve this problem, you need to either a) obtain the source code for the components so that you can recompile the components with the new BDK units, or b) obtain a compiled version of their component that was compiled with the same version of the BDK you are using.

The FileMan Delphi Components (FMDC) is one example of a package whose source code references the TRPCBroker component. Patch FMDC*1.0*1 was released to issue the FMDC source code, so that you can easily recompile FMDC whenever new BDKs are released.

2. Confirm Distribution Files

You need the following files to install the BDK for Delphi V. 3:

File Name	Description
XWB1_1RM.TXT (ASCII file)	**Readme text file**. Provides any pre-installation instructions, last minute changes, new instructions, and additional information to supplement the manuals. Read all sections of this file prior to workstation installations.
XWB1_1P14IG.PDF (binary file) *or latest version, e.g., XWB1_1PxxIG.PDF*	**Installation Guide**. Use in conjunction with the XWB1_1RM.TXT Readme text file.
XWB1_1P14PG.EXE (binary file) *or latest version, e.g., XWB1_1PxxPG.EXE*	**Programmer client workstation** self-installing executable. Installs the RPC Broker Development Kit (BDK).

3. Run the Installation Program — Unpack Files *(required)*

To start the programmer client workstation installation setup program, run XWB1_1P14PG.EXE (or latest version, e.g., *XWB1_1PxPG.EXE*). Follow the procedures on how to run a program as described in your operating system's Systems Manual. (There is no "silent" installation for the BDK.)

For example, in Windows 95:

A. Go to the Start menu.
B. Select the Run option.
C. Click Browse to locate XWB1_1P14PG.EXE (or latest version, e.g., *XWB1_1PxPG.EXE*).
D. Click OK to run XWB1_1P14PG.EXE (or latest version, e.g., *XWB1_1PxPG.EXE*).

During the installation, various dialog boxes are presented to you. Follow the online instructions. The directory location you choose to install the BDK files in will be referred to in these instructions as the "BDK files directory". In addition to placing files in the subdirectories of the BDK files directory, a copy of the run-time .bpl file (e.g. XWB_R30.BPL) will be put into the system directory.

The BDK installation supports several different versions of Delphi, which at the current time includes V. 3, 4 and 5. During the installation you are given the opportunity to include the necessary files for development under one or more of these environments. If you request the BDK source code, the code for the version(s) you select will be placed in a directory \source descendent from that version's directory.

By default, Delphi V. 5 is pre-selected.

4. De-Install Any Previous BDK Installed for Delphi V. 3 *(required)*

If this is a virgin installation proceed directly to Step 5.

A. Start Delphi V. 3 and close any open projects.

B. From the Delphi menu, select *Component | Install Packages*.

C. Remove the previous version of the following Broker file from the Installed Units:

   Vista Broker (or "VistaBroker-designtime")

   To remove this file:

   i.   In the "**Project Options**" dialog box, verify that the file to be removed is listed in the Design Packages (e.g., VistaBroker.DPL). Highlight the entry.
   ii.   Click Remove. Choose Yes in the confirmation dialog box.
   iii. Click OK in the "**Project Options**" dialog box to remove the specific package.

5. Install/Update the TRPCBroker Component Files in Delphi *(required)*

A. Start Delphi V. 3 and close any open projects.

B. From the Delphi menu, select *Component | Install Packages*. This opens a window titled Project Options.

C. Click Add. This opens a window titled Add Design Packages.

D. In the Add Design Packages window, navigate to the directory in which you installed the new BDK files for Delphi 3 in step 3 above (e.g., …\BDK32\D3).

E. Select the file **XWB_D30.DCP** and click Open. Delphi returns you to the Project Options window. "Vista Broker_designtime (Delphi 3)" should now a checked item in the list of Design Packages.

F. Click OK to close the Project Options window. Delphi automatically rebuilds the Delphi Component Palette creating/updating a Kernel page tab with the RPC Broker component (i.e., TRPCBroker) as well as any previously installed components:

TRPCBroker 32 Bit Component on the Kernel Page Tab in Delphi

Palette scroll arrows (You may need to scroll to reach the Kernel page tab.)
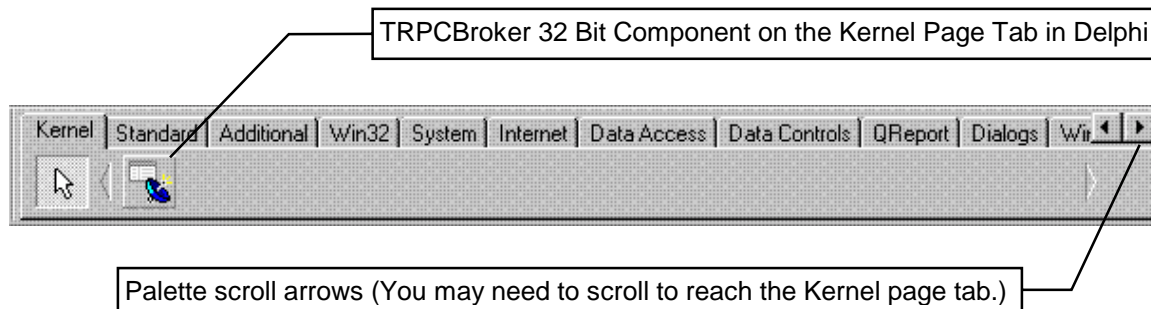
6. Install the Broker Help Files with Delphi V. 3's Help *(recommended)*

This version of the RPC Broker provides context-sensitive help. By merging the RPC Broker Component help with Delphi's help, you are able to get context-sensitive help on the RPC Broker component (i.e., TRPCBroker) and its properties while working in Delphi. Simply make the Broker component or property the active object in Delphi, and press the F1 key.

To integrate the Broker context-sensitive help with the Delphi context-sensitive help on the programmer client workstation:

A. Exit Delphi, if it is running on your machine.

B. Copy the BROKER.CNT, BROKER.HLP, BROKERSM.CNT, and BROKERSM.HLP files (located in the BDK files directory for Delphi 3, e.g., ...\BDK32\D3) into the …\Delphi 3\HELP directory.

C. Using a text editor (e.g., Windows Notepad), open the DELPHI3.CFG file in the …\Delphi 3\HELP directory. Add the following statements in the "Third-Party Help" section:

```
:LINK BROKER.HLP
```

Save DELPHI3.CFG.

D. Delete the hidden file DELPHI3.GID in the …\Delphi 3\HELP directory:

- From Windows Explorer: If you have the option turned on to view hidden files, you can select this file and then delete it.

- From the command line: Use DOS's ATTRIB command to change the file attribute to not hidden, then delete the following files:

```
C:\Program Files\Borland\Delphi 3\HELP>attrib -h delphi3.gid <RET>

C:\Program Files\Borland\Delphi 3\HELP>del delphi3.gid <RET>
```

    E.   To access BROKER.HLP's table of contents or index, do the following:

        i.   Close any open help files.

        ii.   Using a text editor, open the DELPHI3.CNT file in the ...\DELPHI 3\HELP directory.

        iii. In DELPHI3.CNT's Index section (top of the file), add the following line:

```
:Index RPC Broker Developer's Guide =broker.hlp
```

        iv. In DELPHI3.CNT's Include section (bottom of the file), add the following line:

```
:Include broker.cnt
```

        v.   Save your changes to DELPHI3.CNT and close the file.

    F.   Start Delphi. On a blank form, add the TRPCBroker component from the component palette to your form. Select the TRPCBroker component on your form and press F1 for help. If the help for the TRPCBroker component comes up, you are all set.

Also, in any RPC Broker help topic, if you press the *Help Topics* button, you should see the *Online RPC Broker Developer Guide* manual listed along with the regular Delphi manuals. RPC Broker topics should be available in the Delphi help index and full text search tabs as well.

After you merge the Broker help files (i.e., BROKER.HLP and BROKERSM.HLP) with Delphi's help, you may want to make a Windows icon or shortcut for the BROKER.HLP and BROKERSM.HLP files. The Broker help files document how to use the RPC Broker component in Delphi V. 3.

*** You have now completed the installation of the RPC Broker component for Delphi V. 3 on the programmer client workstation ***

M Server Installation Instructions

The instructions in this section are applicable for the Test/Production accounts in the DSM, Caché, or MSM environments.

> ⚠️ **Do NOT use the instructions in this section if you are installing a server-side RPC Broker patch. Instead, follow the instructions included with the patch to install the patch.**
>
> **Only use the instructions in this section if you are performing a VIRGIN server installation, or UPGRADING VERSIONS of the RPC Broker on the server.**

1. **Retrieve Released RPC Broker V. 1.1 Patches** *(required)*

   At the time of publication of this manual, several server-side patches for the RPC Broker V. 1.1 have been released. You should have these patches readily available so that you can apply them later in the installation process.

   Obtain all released RPC Broker V. 1.1 server-side patches, from the Forum patch system or through normal procedures.

2. **Save Broker Routines and Global as a Safeguard before the Installation** *(optional)*

   ⭐ *If this is a virgin installation proceed directly to Step 3.*

   If you are running a prior version of the RPC Broker, you should save the existing Broker routines and global (i.e., XWB namespace) on the M server prior to performing the main RPC Broker installation. It is best to save the Broker routines and global immediately prior to performing the RPC Broker main installation.

3. **Place the ^XWB Global** *(required)*

   The RPC Broker uses one global, ^XWB. This global is used by the RPC Broker to store the REMOTE PROCEDURE file (#8994) and the RPC BROKER SITE PARAMETERS file (#8994.1).

   If the ^XWB global is not already placed in the target M account, go ahead and place it before proceeding with the installation.

   The ^XWB global has the potential to be read-intensive as more and more remote procedures are added to it in the future. The ^XWB global is static for the most part (except during the addition of new applications), so journaling can be disabled if so desired.

For DSM systems, it is best to translate the global to a volume set other than ROU. Note that for translation to take effect, DSM must be rebooted.

4. **Review Global Protection, Translation, and Journaling** *(required)*

Check the global protection, translation, and journaling characteristics of the RPC Broker ^XWB global on your system. An outline of a possible scheme for the management of the Broker global is listed below:

Global Name	Protection			Translate?	Journal?
	DSM for OpenVMS	Caché	MSM-DOS		
^XWB	System: RWD	Owner: RWD	System: RWD	YES	NO
	World: RW	Group: N	World: RWD		
	Group: RW	World: N	Group: RWD		
	User: RW	Network: RWD	User: RWD		

i *Cookbook recommendations should also be consulted regarding journaling, translation, and replication.*

5. **Do Not Run any Client/Server Software during the Installation** *(required)*

No Broker-based client/server software should be running while the Broker installation on the server is taking place.

⭐ *If this is a virgin installation, proceed directly to Step 7.*

6. **Shut Down the Broker Listener on the Server** *(required)*

Check the system status and verify if the XWBTCPL routine is running (i.e., Broker Listener). If any Listeners are running, shut them down as follows:

A. Log into your M server

B. Enter the following at the M prompt:

```
>D STOP^XWBTCP(Listener port)
```

(Typically, the Listener port is 9200.)

i *Alternatively, after you have installed the RPC BROKER SITE PARAMETERS file (#8994.1), you can use VA FileMan to set the STATUS field in this file for the appropriate port to STOP. Assuming that TaskMan is running, the Listener will be stopped on that port.*

7. Delete XWB* Routines From Server *(required)*

Delete the XWB* routines to eliminate all previous XWB* init routines.

8. Copy XWB1_1.KID to the M Server Test and Production Accounts *(required)*

XWB1_1.KID is the M server software in Kernel V. 8.0 KIDS format.

9. Verify You Have an HFS Device and a Null Device *(required)*

a. Verify you have a Host File Server (HFS) device in the DEVICE file (#3.5) named "HFS". If you have performed KIDS installations on your server before, you probably already have an appropriate HFS device set up. If you don't have an entry for this device, you must create one.

i *For information on how to create an HFS device, please refer to "Chapter 18 Host Files" in the Kernel V. 8.0 Systems Manual.*

b. Verify you have a Null device in the DEVICE file (#3.5) named "NULL" (or whose mnemonic is named "NULL"). You can have other devices with similar names, but one device is needed whose name or mnemonic is "NULL". The subtype should be a "P-" subtype (e.g., P-OTHER), the margin should be a minimum of 80, and the page length should be a minimum of 60. Sample setups:

DSM for OpenVMS Null Device Setup Example
```
NAME: NULL                            $I: _NLA0:
  ASK DEVICE: NO                      ASK PARAMETERS: NO
  SIGN-ON/SYSTEM DEVICE: NO           LOCATION OF TERMINAL: Bit Bucket
  SUBTYPE: P-OTHER                    TYPE: TERMINAL
```

Caché Null Device Setup Example
```
NAME: NULL                            $I: //./nul
  ASK DEVICE: NO                      ASK PARAMETERS: NO
  SIGN-ON/SYSTEM DEVICE: NO           LOCATION OF TERMINAL: BIT BUCKIT
  SUBTYPE: P-OTHER                    TYPE: TERMINAL
```

P-OTHER Terminal Type Setup Example
```
NAME: P-OTHER                         RIGHT MARGIN: 132
  FORM FEED: #                        PAGE LENGTH: 64
  BACK SPACE: $C(8)                   DESCRIPTION: General prntr (132)
```

10. Using KIDS, Install Broker Routines and Remote Procedures *(required)*

In the PACKAGE file (#9.4), verify the NAME field (#.01) for any package with the XWB namespace. The NAME should be RPC BROKER. If the NAME is incorrect, you must change it to read RPC BROKER. If no entry exists, the KIDS install will create the entry for you.

Using KIDS, load and install the Broker routines and remote procedures. Make sure you have installed *all* of the Kernel, VA FileMan, and Kernel Toolkit patches. For Kernel V. 8, install Kernel patch XU*8*59, if you haven't already installed it, after version 1.1 of the Broker. You do *not* need a previous version of the Broker to install this latest version.

i *For more information on KIDS please refer to the KIDS documentation in HTML format on the Kernel Home Page at the following web address:*

http://vista.med.va.gov/kernel/

The following is an example of a KIDS installation performed on a server at the San Francisco Chief Information Office (CIO) Field Office, the actual dialog at your site may vary:

```
Select Systems Manager Menu Option: PROgrammer Options

   KIDS    Kernel Installation & Distribution System ...
   NTEG    Build an 'NTEG' routine for a package
   PG      Programmer mode
           Calculate and Show Checksum Values
           Delete Unreferenced Options
           Error Processing ...
           Global Block Count
           List Global
           Map Pointer Relations
           Number base changer
           Routine Tools ...
           Test an option not in your menu
           Verifier Tools Menu ...

Select Programmer Options Option: KIDS <RET> Kernel Installation &
                                          Distribution System


           Edits and Distribution ...
           Utilities ...
           Installation ...

Select Kernel Installation & Distribution System Option: Installation


   1       Load a Distribution
   2       Verify Checksums in Transport Global
   3       Print Transport Global
   4       Compare Transport Global to Current System
   5       Backup a Transport Global
   6       Install Package(s)
           Restart Install of Package(s)
           Unload a Distribution


Select Installation Option: 1 <RET> Load a Distribution
Enter a Host File: XWB1_1.KID

KIDS Distribution saved on Jul 08, 1997@@08:37:39
Comment: RPC Broker version 1.1
This Distribution contains Transport Globals for the following
Package(s):
     RPC BROKER 1.1

Want to Continue with Load? YES// <RET>  YES
Loading Distribution...

Want to RUN the Environment Check Routine? YES// <RET>
   RPC BROKER 1.1
```

Step 10, sample KIDS installation (continued):

```
Use INSTALL NAME: RPC BROKER 1.1 to install this Distribution.

    1       Load a Distribution
    2       Verify Checksums in Transport Global
    3       Print Transport Global
    4       Compare Transport Global to Current System
    5       Backup a Transport Global
    6       Install Package(s)
            Restart Install of Package(s)
            Unload a Distribution

Select Installation Option: 2 <RET> Verify Checksums in Transport
Global
Select INSTALL NAME: RPC BROKER 1.1  <RET>   Loaded from Distribution
   7/24/97@08:40:33
     => RPC Broker 1.1.  ;Created on Jul 08, 1997@08:37:
DEVICE: HOME// <RET>  Telnet terminal


PACKAGE: RPC BROKER 1.1         Jul 24, 1997 8:40 am         PAGE 1
-------------------------------------------------------------------



   11 Routine checked, 0 failed.



    1       Load a Distribution
    2       Verify Checksums in Transport Global
    3       Print Transport Global
    4       Compare Transport Global to Current System
    5       Backup a Transport Global
    6       Install Package(s)
            Restart Install of Package(s)
            Unload a Distribution


Select Installation Option: 6 <RET> Install Package(s)
Select INSTALL NAME: RPC BROKER 1.1 <RET>   Loaded from Distribution
   7/24/97@08:40:33
     => RPC Broker 1.1.  ;Created on Jul 08, 1997@08:37:

This Distribution was loaded on Jul 24, 1997@08:40:33 with header of
Remote Procedure Call Broker version 1.1     ;Created on Jul 08,
1997@08:37:39
It consisted of the following Install(s):
RPC BROKER 1.1
Install Questions for RPC BROKER 1.1

Incoming Files:
```

Step 10, sample KIDS installation (continued):

```
    8994        REMOTE PROCEDURE
Note:  You already have the 'REMOTE PROCEDURE' File.


    8994.1    RPC BROKER SITE PARAMETERS
Note:  You already have the 'RPC BROKER SITE PARAMETERS' File.

Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES//
NO

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME// <RET>  Telnet terminal
(Status bar is displayed here, will indicate 100% complete)

RPC BROKER 1.1
 Install Started for RPC BROKER 1.1 :
               Jul 24, 1997@08:41:53

 Installing Routines:
(Status bar is displayed here, will indicate 100% complete)
               Jul 24, 1997@08:41:54

 Installing Data Dictionaries:
(Status bar is displayed here, will indicate 100% complete)
               Jul 24, 1997@08:41:58

 Installing PACKAGE COMPONENTS:

 Installing PRINT TEMPLATE
(Status bar is displayed here, will indicate 100% complete)

 Installing REMOTE PROCEDURE
(Status bar is displayed here, will indicate 100% complete)

 Installing OPTION
(Status bar is displayed here, will indicate 100% complete)
               Jul 24, 1997@08:42

 Updating Routine file...
(Status bar is displayed here, will indicate 100% complete)

 Updating KIDS files...
(Status bar is displayed here, will indicate 100% complete)

 RPC BROKER 1.1    Installed.
               Jul 24, 1997@08:42:36

(Status bar is displayed here, showing 100% complete)


Install Completed
```

11. Setup for XWB LISTENER STARTER Option *(recommended)*

The XWB LISTENER STARTER Option needs some setup performed so that it knows how to specify what node(s) to launch listeners on. You need to do setup for the XWB LISTENER STARTER Option if you are:

- A DSM site running TaskMan in a DCL context
- An MSM site *not* using MSERVER as its RPC Broker Listener
- A Caché site

If your site corresponds to any of the configurations above, do the following:

A. Use VA FileMan to edit the BOX-VOLUME PAIR field (#.01) in the TASKMAN SITE PARAMETERS file (#14.7). For each Box-Volume pair where you plan to run a Broker Listener, make sure that the Box-Volume pair is entered in the BOX-VOLUME PAIR field.

For more information on configuring TaskMan, please refer to Chapter 23, "Task Manager System Management: Configuration," in the Kernel V. 8.0 Systems Manual.

B. Type the following at the programmer prompt:

```
>S XWBCHK="ALLOW"
```

C. Invoke VA FileMan using D Q^DI and edit the new RPC BROKER SITE PARAMETERS file:

i.   Select your site domain in the DOMAIN NAME field (#.01); only one entry is allowed here.

ii. For nodes where you plan to run Broker Listeners, enter/make sure their Box-Volume pairs are entered in the BOX-VOLUME PAIRS subfield (#.01) of the LISTENER multiple (#7):

- For each Box-Volume pair enter all the ports in the PORT subfield (#.01) of the PORT multiple that you plan to use for the Listeners.

- Also, enter the UCI in the UCI field (#1) of the PORT multiple where the Listener should run.

For more information about the MSERVER and how to configure it, please refer to the "MSM for NT 4.3.0 MSERVER Replaces RPC Broker Listener Process" topic in the RPC Broker V. 1.1 Systems Manual.

12. Device Setup for Caché Sites *(required)*

For Caché sites only, invoke VA FileMan using D Q^DI and review/modify the TYPE field values in the DEVICE file (#3.5) for the TCP and NULL device entries:

Device	TYPE Field Value
TCP	VIRTUAL TERMINAL
NULL	HOST FILE SERVER (HFS) or TERMINAL

13. Review Parameters for Auto Sign-On *(required)*

All sites should invoke VA FileMan using D Q^DI and review/modify:

1. The system default AUTO SIGN-ON field value in the KERNEL SYSTEM PARAMETERS file (#8989.3).

2. Any AUTO SIGN-ON values set in users' NEW PERSON file (#200) entries.

The default value for both fields is null. These fields, in conjunction with Kernel's Multiple Signon fields, control access to single signon for users in both the GUI and roll-and-scroll environments. The fields in the NEW PERSON file are checked first. If the user fields in the NEW PERSON file are null, the values in the KERNEL SYSTEM PARAMETERS file are used.

⚠️ **Single signon is *not* supported on MSM systems. All MSM sites must set the DEFAULT AUTO SIGN-ON field in the KERNEL SYSTEM PARAMETERS file (#8989.3) to Disabled.**

ℹ️ *The values in the AUTO SIGN-ON and MULTIPLE SIGN-ON fields in the NEW PERSON file take precedence over the values in the AUTO SIGN-ON and DEFAULT MULTIPLE SIGN-ON fields in the KERNEL SYSTEM PARAMETERS file.*

For more specific information on setting the single signon site parameters, please refer to the "Integrated Single Signon for Multiple User Sessions" topic in Chapter 1 of the RPC Broker V. 1.1 Systems Manual.

14. Apply Released Server RPC Broker V. 1.1 Patches *(required)*

At the time of publication of this manual, several server-side patches for the RPC Broker V. 1.1 have been released. Now that you have completed installing the released RPC Broker V. 1.1 original distribution, you should also apply all RPC Broker V. 1.1 server-side patches

Patches must be installed in their published sequence. To install the patches, follow the installation instructions contained with each patch.

15. Start the Broker Listener on the Server *(recommended)*

Version 1.1 of the RPC Broker uses an M Listener that should always be running in the background, listening to a known port. To start a single Listener on a given port (e.g., 9200), do the following:

A. Log into your M server

B. Enter the following at the M prompt:

```
>D STRT^XWBTCP(Listener port)
```

> *As a convention, the RPC Broker uses 9200, however, sites can choose any available port greater than 1024 (i.e., sockets 1 to 1024 are reserved for standard, well-known services such as SMTP, FTP, Telnet, etc.).*

Alternatively, with DSM and Caché, you can invoke VA FileMan (D Q^DI) and edit the new RPC BROKER SITE PARAMETERS file (#8994.1). Set the STATUS field to START and, assuming that TaskMan is running, the Listener will be started. The STATUS field will change to RUNNING.

16. Automatically Start the Broker Listener(s) *(optional)*

The XWB LISTENER STARTER option can be used to start all configured Broker Listeners at one time (i.e., listeners configured to start in the RPC Broker's site parameters). Additionally, this option can be used to automatically start all of the Listener processes you need when TaskMan starts up, such as after the system is rebooted or configuration is restarted.

> *For information on automatically starting the Broker Listener(s) via the XWB LISTENER STARTER option, please refer to the "Broker Listeners and Ports" topic in Chapter 1 of the RPC Broker V. 1.1 Systems Manual.*

17. Verify the Client/Server Installation of the Broker *(recommended)*

After the server installation is complete and the Listener has been started, verify that everything was installed correctly.

Locate and run the new Broker diagnostic tool (i.e., RPCTEST.EXE) on the client workstation to test the client connection to the server. The installation is successful, if you can signon to the server.

i *Follow the procedures on how to run a program as described in your operating system's Systems Manual. For more information on RPCTEST.EXE, please refer to the "Test the Broker Using the RPC Broker Diagnostic Program" in Chapter 3 of the RPC Broker V. 1.1 Systems Manual.*

*** You have now completed the RPC Broker installation on the M server *

Upon completing the installation of the RPC Broker on both the M server *and* client workstation(s), you are now ready to work with the RPC Broker interface, and to install V*IST*A GUI applications that use the RPC Broker.